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PATENT

Atty. Dkt. No.: C4-971C (SPLG 23336-17)

Remarks

Claims 1-28 are currently pending in the present application. Claims 1-28 stand rejected. Claims 2, 9, and 25 have been canceled herein without prejudice or disclaimer of the subject matter therein. Claims 29-31 have been newly added herein. Upon entry of this Amendment, claims 1, 3-8, 10-24, and 26-31 will be pending in this application. It is respectfully submitted that the pending claims define allowable subject matter.

Claims 1-28 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,263,088 (Crabtree). Applicants traverse this rejection for at least the reasons set forth hereafter.

Crabtree describes a system and method for tracking movement of objects, such as people, through a scene. A background image comprising image information representing a background of the scene is generated. Image information for a video frame is compared with image information of the background image to generate regions in a video frame that potentially represent objects to be tracked in the scene. Region clusters are formed by combinations of regions if such combination satisfy predetermined criteria, and the region clusters are hypotheses of objects to be tracked. Each region cluster is evaluated to determine whether each represents an object to be tracked, based on object model information and correspondence to region clusters in a prior video frame. A confidence value is generated for each region cluster that represents a likelihood that the region represents an object to be tracked. A correspondence is determined between region clusters in consecutive video frames. Tracks of objects through the scene over time are constructed based upon the correspondence determined between region clusters in consecutive video frames. (See Abstract and column 4, line 24-column 6, line 31).

As amended, independent claim 1 recites a method for detecting a moving object of interest, having a characteristic with a predetermined value, in a field of view of a motion video camera using a video signal received from the motion video camera, wherein the method

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comprises, among other things, "receiving an indication of a selected monitoring area in said field of view...and detecting moving objects within said selected monitoring area".

Crabtree does not describe or suggest a method as recited in claim 1. For example, Crabtree does not describe or suggest receiving an indication of a selected monitoring area in a field of view of a motion video camera and detecting moving objects within the selected monitoring area. Crabtree describes tracking movement of objects by generating regions or region clusters in a video frame that potentially represent objects to be tracked in the scene. However, nowhere does Crabtree describe or suggest receiving an indication of a selected monitoring area in a field of view of the video frame and detecting moving objects only within the selected monitoring area. Rather, Crabtree describes generating the regions or region clusters based on the entire field view of the video frame. On page 4 of the outstanding Office Action, the Examiner asserts that Crabtree describes "receiving an indication of a selected monitoring area in the field of view and wherein the step of detecting is performed in the monitoring [area] (See col. 15, lines 43-62 wherein the confidence value is the indication of the monitoring area)." However, as described in col. 15, lines 43-62 of Crabtree, the confidence value merely indicates a likelihood of whether a region or region cluster is an object to be tracked, such as a person. The confidence value does not indicate a selected monitoring area in a field of view of a video camera for objects to be detected within. Rather, the confidence value indicates whether or not a region or region cluster that has already been detected and is suspected of being an object to be tracked is likely to be an object to be tracked.

For at least the reasons set forth above, claim 1 is submitted to be patentable over Crabtree.

Claim 3 depends from independent claim 1. When the recitations of claim 3 are considered in combination with the recitations of claim 1, Applicants submit that claim 3, for at least this reason, is likewise patentable over Crabtree.

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Independent claims 4 and 23 are submitted to be patentable over Crabtree for at least substantially similar reasons to claim 1. For example, Crabtree does not describe or suggest receiving an indication of a selected monitoring area in a field of view of a motion video camera, as recited in claims 4 and 23.

Claims 5-8 and 10 depend from independent claim 4. When the recitations of claims 5-8 and 10 are considered in combination with the recitations of claim 4, Applicants submit that claims 5-8 and 10, for at least this reason, are likewise patentable over Crabtree.

Claims 24 and 26 depend from independent claim 23. When the recitations of claims 24 and 26 are considered in combination with the recitations of claim 23, Applicants submit that claims 24 and 26, for at least this reason, are likewise patentable over Crabtree.

As amended, independent claim 11 recites a computer readable medium having stored thereon computer-executable instructions for detecting a moving object of interest, having a characteristic with a predetermined value, in a field of view of a motion video camera using a video signal received from the motion video camera performing the steps of, among other things, "receiving from a user an object qualifying parameter representative of the characteristic with the predetermined value of the moving object of interest".

Crabtree does not describe or suggest a computer readable medium as recited in claim 11. For example, Crabtree does not describe or suggest receiving from a user an object qualifying parameter representative of a characteristic with a predetermined value of a moving object of interest. Rather, Crabtree describes receiving object model information or data that is compared with real world object information from an object correspondence graph manager (OCGM) 300. (See column 15, lines 63-67). Nowhere does Crabtree describe or suggest that the object model information is received from a user.

For at least the reasons set forth above, claim 11 is submitted to be patentable over Crabtree.

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Claims 12 and 13 depend from independent claim 11. When the recitations of claims 12 and 13 are considered in combination with the recitations of claim 11, Applicants submit that claims 12 and 13, for at least this reason, are likewise patentable over Crabtree.

As amended, independent claims 14 recites a computer readable medium having stored thereon computer-executable instructions for reducing information in a video signal having a plurality of frames received from a motion video camera with a field of view, wherein each of the frames has a data set, performing the steps of, among other things, "detecting moving objects in the field of view of the motion video camera...receiving a user selection of objects of interest from said detected moving objects".

Crabtree does not describe or suggest a computer readable medium as recited in claim 14. For example, Crabtree does not describe or suggest detecting moving objects in the field of view of a motion video camera and receiving a user selection of objects of interest from the detected moving objects. Rather, Crabtree describes automatically selecting a region or region cluster, which has already been detected and is suspected of being an object to be tracked, as an object to be tracked by comparing object model information with real world object information and generating a confidence value from the comparison. Nowhere does Crabtree describe or suggest that a user selects whether the region or region clusters are objects to be tracked.

For at least the reasons set forth above, claim 14 is submitted to be patentable over Crabtree.

Independent claim 21 is submitted to be patentable over Crabtree for at least substantially similar reasons to claim 11. For example, Crabtree does not describe or suggest an input device for receiving an object qualifying parameter representative of the characteristic with the predetermined value of the moving object of interest, as recited in claim 21.

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Claim 22 depends from independent claim 21. When the recitations of claim 22 are considered in combination with the recitations of claim 21, Applicants submit that claim 22, for at least this reason, is likewise patentable over Crabtree.

Independent claim 27 recites a method for reducing information in a video signal having a plurality of frames received from a motion video camera with a field of view, wherein each of said frames contains at least one selected object of interest, wherein the method comprises, among other things, "creating a data set for each frame of the plurality of frames in the video signal based on detected moving objects by determining if a current frame of the plurality of frames contains at least one selected object of interest...if said current frame contains at least one selected object of interest, generating a data representation of said at least one selected object of interest and associating said data representation with said data set of said current frame...and if said current frame does not contain at least one selected object of interest, making said data set for said current frame as empty to indicate that said empty frame is to be discarded."

Crabtree does not describe or suggest a method as recited in claim 27. For example, Crabtree does not describe or suggest, if a current frame does not contain at least one selected object of interest, marking the data set for the current frame as empty to indicate that the empty frame is to be discarded. On page 5 of the outstanding Office Action, the Examiner asserts that Crabtree describes "means to mark the data set for the current frame as empty (See col. 34, lines 56-61). However, column 34, lines 56-61 of Crabtree describes partitioning an orienting bounding box of a region cluster representing one or more objects being tracked into a plurality of slots. Some of the slots may be empty if components, such as different objects, of the region cluster are spaced apart. Accordingly, the frames being discussed in column 34 of Crabtree are not empty of selected objects of interest, but rather include one or more objects being tracked. The empty slots do not represent data frames that do not include selected objects of interest, but rather just represent empty space between selected objects. Nowhere does Crabtree describe or suggest, if a current frame does not contain at least one selected object of interest, marking the

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data set for the current frame as empty to indicate that the empty frame is to be discarded, as recited in claim 27.

For at least the reasons set forth above, claim 27 is submitted to be patentable over Crabtree.

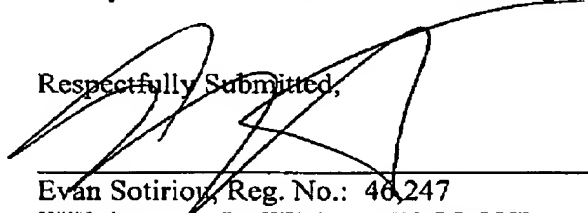
Independent claim 28 is submitted to be patentable over Crabtree for at least substantially similar reasons to claim 27.

Claims 15-20 depend from independent claim 28. When the recitations of claims 15-20 are considered in combination with the recitations of claim 28, Applicants submit that claims 15-20, for at least this reason, are likewise patentable over Crabtree.

Newly added claims 29-31 depend from independent claim 27, which is submitted to be in condition for allowance. When the recitations of claims 29-31 are considered in combination with the recitations of claim 27, Applicants submit that these dependent claims are likewise patentable over the cited prior art for at least the same reasons set forth above.

In view of the foregoing amendments and remarks, it is respectfully submitted that the prior art fails to teach or suggest the claimed invention and all of the pending claims in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,



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